REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed August 17, 2005. Through this response, claims 1, 15, 20, 25, and 28 have been amended. Reconsideration and allowance of the application and presently pending claims 1, 3-5, 7-15, 17-18, 20, 22-25, 27-28, and 30-32 are respectfully requested.

I. Claim Rejections - 35 U.S.C. § 103(a)

A. Rejection of Claims

Claims 1, 3-5, 7-10, 12-15, 17, 20, 22-25, 27-28 and 30-32 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Banks* ("*Banks*," U.S. Patent No. 6,487,593), in view of *Wei et al.* ("*Wei*," U.S. Pat. No. 6,515,967), and further in view of *Sasin et al.* ("*Sasin*," U.S. Patent No. 6,011,830). Claims 11 and 18 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Banks* in view of *Wei*, in view of *Sasin* as applied to Claim 1, and further in view of *Circo* ("*Circo*," U.S. Pat. No. 4,677,614). Applicants respectfully traverse these rejections.

B. Discussion of the Rejection

As has been acknowledged by the Court of Appeals for the Federal Circuit, the U.S. Patent and Trademark Office ("USPTO") has the burden under section 103 to establish a *prima facie* case of obviousness by showing some objective teaching in the prior art or generally available knowledge of one of ordinary skill in the art that would lead that individual to the claimed invention. *See In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). The Manual of Patent Examining Procedure (MPEP) section 2143 discusses the requirements of a *prima facie* case for obviousness. That section provides as follows:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teaching. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure.

In the present case, Applicants respectfully submit that a *prima facie* case for obviousness has not been established.

Independent Claim 1

Claim 1 recites (with emphasis added):

> 1. A method for diagnosing faults in a system under test (SUT), the SUT defining data transmission paths through which data packets are transferred, said method comprising:
>
> ***providing a dataflow model corresponding to the error-free behavior of the SUT***, the dataflow model including edges, each of the edges corresponding to a portion of one of the data transmission paths of the SUT capable of introducing errors in data transfer;
>
> ***identifying portions of the data transmission paths of the SUT capable of introducing errors in data transfer***;
>
> providing constraints defining relationships of at least some of the portions of the data transmission paths identified with respect to data packet flow through the data transmission paths;
>
> receiving test results corresponding to the SUT; and
>
> ***diagnosing the SUT with respect to the constraints by analyzing the test results with respect to the dataflow model and identifying faulty portions of the data transmission paths.***

Applicants respectfully submit that the combination of references do not disclose, teach, or suggest at least the emphasized features. In support of this position, Applicants have prepared the accompanying 37 C.F.R. §1.132 declaration along with the accompanying Exhibits A, B, and C as evidence of what one skilled in the art would consider to be a dataflow model, and also to provide evidence to support the assertion that one skilled in the art would not consider the *Banks* and *Wei* reference to include teachings

of dataflow models. As averred in the declaration, a dataflow model has a well understood meaning in the art, as evidenced by Exhibit A, which is an exemplary on-line definition provided by the *Webopedia* web-site that provides that a data flow model is a "graphical representation produced by data flow modeling." Additionally, dataflow modeling has a well understood meaning in the art, as evidenced by Exhibit B, which is an exemplary on-line definition provided by the *Webopedia* web-site that provides that data flow modeling is a "process of identifying, modeling and documenting how data moves around an information system." (emphasis added). Further, modeling has a well understood meaning in the art, as evidenced by Exhibit C, which is an exemplary on-line definition provided by the *Webopedia* web-site that provides that modeling or models refer to abstractions or representations.

In the context of these exemplary definitions pertaining to dataflow modeling, the Applicants' specification describes dataflow models in a manner that is consistent with the well understood meaning provided above, such as on page 6, line 9 which provides that the dataflow model can be "representative of the error free behavior of the SUT," and on page 6, lines 18 and 19, which provides that the "dataflow model 120 describes the flow(s) of data associated with SUT 110." The use of the phrase "dataflow models(s)" in the specification makes it clear that a dataflow model and a system under test (or device under test) are not one in the same. Further supporting this interpretation is that Applicants' FIG. 1 shows that the dataflow model is distinguishable from the SUT, which is also consistent with the well understood meanings provided above. Finally, Applicants' claims describe dataflow models in a manner that is consistent with the well understood meaning and the Applicants' specification, such as in independent claim 1 which recites "providing a dataflow model corresponding to the error-free behavior of the SUT."

Turning to the references, and as averred in the declaration, section 3, page 3 of the Detailed Action in the Office Action mailed 8/17/2005 provides as follows:

> Banks teaches a method and system for diagnosing faults in a system under test (SUT) (column 1 lines 64-66), the SUT defining data transmission paths through which data packets are transferred (see FIG. 1 and Background), said method comprising: providing a dataflow model corresponding to the error-free behavior of the SUT (see FIG. 1 where data flows from DPU to DPU by the edges/lines depicted), the dataflow model including edges, each of the edges corresponding to a portion of one of the data transmission paths of the SUT (column 2 lines 66-67, column 3 lines 1-7)...

Applicants respectfully disagree. Although the Office Action alleges that FIG. 1 of *Banks* shows "providing a dataflow model," the brief description of drawings section of *Banks* (col. 2, lines 57-59) provides a contrasting description for FIG. 1:

> FIG. 1 shows a group of inter-connected data processing units forming a network, to which the preferred embodiment can advantageously be applied;

From at least the above mentioned section from the brief description of drawings section of *Banks*, it appears that an actual, physical network of data processing units is shown. As averred to in the declaration, Applicants respectfully submit that one skilled in the art of modeling of data transfer faults would understand that the physical network shown in FIG. 1 and described in the specification of *Banks* would be considered a SUT and not a dataflow model.

With regard to the *Wei* reference, the Advisory Action mailed 6/17/2005 alleges that *Wei* discloses a dataflow model in Figure 1. In contrast, the brief description of drawings section of *Wei* (col. 4, lines 17-18) provides the following description for FIG. 1:

> FIG. 1 is an illustration showing typical components in a computer network configuration.

From at least the above mentioned section from the brief description of drawings section of *Wei*, it appears that an actual, physical computer network is shown. Applicants respectfully submit, as averred in the declaration, that one skilled in the art of modeling of data transfer faults would understand that the physical network shown in FIG. 1 and described in the specification of *Wei* would be considered a SUT and not a dataflow model.

The addition of *Sasin* does not remedy the failure of the *Banks* and *Wei* references to disclose, teach, or suggest the emphasized claim features. For instance, *Sasin* fails to disclose, teach, or suggest "diagnosing the SUT with respect to the constraints ***by analyzing the test results with respect to the dataflow model, and identifying faulty portions of the data transmission paths***." That is, *Sasin* does not appear to perform any analysis or evaluation of test results with respect to a dataflow model. Thus, for at least the reasons provided above, Applicants respectfully submit that the combination of references fail to disclose, teach, or suggest at least the emphasized claim features, and respectfully request that the rejection to independent claim 1 be withdrawn.

Because independent claim 1 is allowable over the combination of references, dependent claims 3-5 and 7-14 are allowable as a matter of law for at least the reason that the dependent claims 3-5 and 7-14 contain all elements of their respective base claim. See, *e.g.*, *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

Independent Claim 15

Claim 15 recites (with emphasis added):

> 15. A method for diagnosing faults in a system under test (SUT), said method comprising:
> ***providing a dataflow model representative of error-free behavior of the SUT, the dataflow model including information corresponding to***

> ***a relationship of error detection capabilities of data packet flow through the SUT***;
>
> providing constraints defining relationships of portions of the dataflow model, the constraints comprising equations describing the flow of the data packets through the SUT; and
>
> ***diagnosing the SUT with respect to the dataflow model using the constraints and identifying faulty portions of the data transmission paths***.

For similar reasons to those provided above in association with independent claim 1, Applicants respectfully submit that the combination of references to not disclose, teach, or suggest at least the emphasized features. Thus, Applicants respectfully request that the rejection to independent claim 15 be withdrawn.

Because independent claim 15 is allowable over the combination of references, dependent claims 17-18 are allowable as a matter of law.

Independent Claim 20

Claim 20 recites (with emphasis added):

> 20. A system for diagnosing faults in a system under test (SUT), said system comprising:
>
> ***a dataflow model representative of error detection capabilities of the SUT***; and
>
> ***a reasoning engine associated with said dataflow model, said reasoning engine being adapted to evaluate test results corresponding to the SUT in relation to said dataflow model and identify faulty portions of the data transmission paths,***
>
> wherein said dataflow model is a directed graph including edges and vertices, each of said edges corresponding to at least a portion of a data transmission path of the SUT through which data packet transfer can occur and through which an error can be introduced, each of said edges being defined by two of said vertices.

For similar reasons to those provided above in association with independent claim 1, Applicants respectfully submit that the combination of references to not disclose, teach, or suggest at least the emphasized features. Thus, Applicants respectfully request that the rejection to independent claim 20 be withdrawn.

Because independent claim 20 is allowable over the combination of references, dependent claims 22-24 are allowable as a matter of law.

Independent Claim 25

Claim 25 recites (with emphasis added):

> 25. A system for diagnosing faults in a system under test (SUT), said system comprising:
> means for receiving test results corresponding to portions of data transmission paths of the SUT; and
> ***means for diagnosing*** the SUT with respect to constraints defining relationships of at least some of the portions of data transmission paths of the SUT with respect to data packet flow through the data transmission paths,
> wherein ***said means for diagnosing includes means for analyzing the SUT with respect to a dataflow model representative of error-free behavior of the SUT and means for identifying faulty portions of the data transmission paths.***

For similar reasons to those provided above in association with independent claim 1, Applicants respectfully submit that the combination of references to not disclose, teach, or suggest at least the emphasized features. Thus, Applicants respectfully request that the rejection to independent claim 25 be withdrawn.

Because independent claim 25 is allowable over the combination of references, dependent claim 27 is allowable as a matter of law.

Independent Claim 28

Claim 28 recites (with emphasis added):

> 28. A diagnosis system stored on a computer-readable medium, the diagnosis system being adapted to diagnose data packet transfer faults in a system under test (SUT), said diagnosis system comprising:
> logic configured to identify portions of the data transmission paths of the SUT capable of introducing errors in data packet transfer;
> logic configured to provide constraints defining relationships of at least some of the portions of the data transmission paths with respect to data packet flow therethrough; and
> ***logic configured to diagnose*** the SUT with respect to the constraints,
> wherein said logic configured to diagnose comprises:

logic configured to provide a dataflow model representative of error-free behavior of the SUT; and
logic configured to analyze the SUT with respect to a dataflow model and identify faulty portions of the data transmission paths.

For similar reasons to those provided above in association with independent claim 1, Applicants respectfully submit that the combination of references to not disclose, teach, or suggest at least the emphasized features. Thus, Applicants respectfully request that the rejection to independent claim 28 be withdrawn.

Because independent claim 28 is allowable over the combination of references, dependent claims 30-32 are allowable as a matter of law.

With regard to the rejections to claims 11 and 18, Applicants respectfully submit that the combination of *Banks*, *Wei*, and *Sasin* do not disclose at least the above-mentioned emphasized claim features. *Circo* does not remedy these deficiencies. Since independent claims 1 and 15 are allowable over the combination of references, and claims 11 and 18 incorporate their respective independent claim features, Applicants respectfully submit that claims 11 and 18 are allowable as a matter of law.

In summary, it is Applicants' position that a *prima facie* for obviousness has not been made against Applicants' claims. Therefore, it is respectfully submitted that each of these claims is patentable over the art of record and that the rejection of these claims should be withdrawn.

II. Double Patenting Rejections - 35 U.S.C. § 101

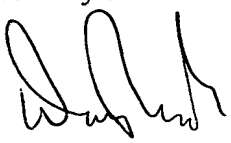
Claims 1, 3, 4, 5, 7, 9 and 10 have been provisionally rejected under the judicially created doctrine of double patenting over claims 2, 2, 2, 3, 5, 7, and 8 respectively of copending application no. 10/099,335. Applicants acknowledge the provisional rejection,

but in the interest of costs, will delay the filing of a terminal disclaimer until the Examiner indicates the presence of allowable subject matter.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims are in condition for allowance. Any other statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



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